

## CLIMATOLOGICAL DATA FOR DECEMBER, 1911.

## DISTRICT No. 9, COLORADO VALLEY.

FREDERICK H. BRANDENBURG, District Editor.

## GENERAL SUMMARY.

The month was cold and stormy. Low temperatures prevailed in all parts of the district, the month resembling December, 1909, in respect to sustained cold; and, despite numerous storms, the precipitation fell far short of the average. There was a notable absence of the nearly stationary high-pressure area that commonly prevails in the Colorado Valley and the Great Basin during December, and which frequently holds over into January. High pressure in this region dominated weather conditions during the last week in November and the first five days in December, but the remainder of December was marked by lack of stability in pressure; in fact, in this respect, the month more nearly resembled March. Low areas developed quickly and in rapid succession in the central and southern parts of the district. Their course was generally southeastward, probably due to the prevailing low pressure in Mexico, the high-pressure areas from the Northwest following and bringing to the district abnormally low temperatures.

## TEMPERATURE.

The mean of the 153 stations reporting was  $29.3^{\circ}$ , or  $3.2^{\circ}$  below the normal. The mean for December, 1909, was  $26.8^{\circ}$ , and for December, 1910,  $37.6^{\circ}$ . By subdivisions the means and departures were: Western Wyoming,  $11.7^{\circ}$ ,  $-4.6^{\circ}$ ; western Colorado,  $17.6^{\circ}$ ,  $-3.0^{\circ}$ ; eastern Utah,  $22.7^{\circ}$ ,  $-2.5^{\circ}$ ; western New Mexico,  $27.3^{\circ}$ ,  $-5.3^{\circ}$ ; Arizona,  $39.2^{\circ}$ ,  $-5.3^{\circ}$ ; and southeastern Nevada,  $34^{\circ}$ . The highest monthly mean was  $52.7^{\circ}$  at Mohawk Summit, Ariz., and the lowest,  $3.4^{\circ}$  at Corona, Colo. After the first five days temperatures in Arizona and southeastern Nevada were continuously below the normal, except one day in the northern part of Arizona; during much of the time the deficiency ranged from  $10^{\circ}$  to  $20^{\circ}$ . In the central and northern parts of the district temperatures fluctuated more, eight days in the first two decades being somewhat warmer than the normal, but the last decade was uniformly much colder than the normal. By subdivisions the extremes were: Western Wyoming,  $45^{\circ}$  at Eden and  $-35^{\circ}$  at Daniel; western Colorado,  $63^{\circ}$  at Chromo and  $-30^{\circ}$  at Pagosa Springs; eastern Utah,  $68^{\circ}$  at St. George and  $-24^{\circ}$  at Scofield; western New Mexico,  $69^{\circ}$  at Lordsburg and  $-37^{\circ}$  at Dulce; Arizona,  $88^{\circ}$  at Silverbell and  $-26^{\circ}$  at Flagstaff No. 2; southeastern Nevada,  $67^{\circ}$  and  $-9^{\circ}$  at Caliente.

## PRECIPITATION.

The average for the 184 stations reporting was 0.68 inch, or 0.46 inch below the normal. The average for December, 1909, was 1.83 inches, and for December, 1910, 0.75 inch. By watersheds the averages and departures were: Green,  $0.54$ ,  $-0.21$ ; Grand,  $0.65$ ,  $-0.66$ ; San Juan,  $0.65$ ,  $-0.48$ ; Little Colorado,  $0.64$ ,  $-0.73$ ; Gila,  $0.83$ ,  $-0.42$ ; Mimbres,  $0.57$ ,  $-0.01$ ; and Colorado proper,  $0.49$ ,  $-0.28$  inch. The greatest monthly amount of precipitation was  $3.96$  inches at Chlarsons Mill, Ariz., while none occurred at 6 stations in Arizona. By subdivisions the greatest and least monthly amounts were: Western Wyoming, 0.92 at Willow Creek Cabin and 0.11 at Eden; western Colorado, 2.84 at Corona and 0.05 at

Delta; eastern Utah, 1.80 at Ranch and 0.13 at Hanksville; western New Mexico, 2.60 at Lordsburg and 0.16 at Mimbres; Arizona, 3.96 at Chlarsons Mill and none at Aztec, Gila Bend, Mohawk Summit, Seligman, Sentinel, and Yuma No. 1.

The precipitation occurred after the 5th, and while up to the average with respect to frequency, the amounts were small. Monthly snowfalls of 10 inches or more occurred at one station in the Wyoming area, at two-fifths of the stations in western Colorado, one-seventh of the stations in eastern Utah, one-fifth of the stations in New Mexico and Arizona. The greatest monthly fall, 32.1 inches, occurred in Arizona.

The average number of days with 0.01 inch or more precipitation was two in western Wyoming; six in western Colorado; three in eastern Utah; four in western New Mexico; three in Arizona; and two in southeastern Nevada; and for the district as a whole, four days.

## MISCELLANEOUS.

The amount of sunshine reported was as follows: Grand Junction 68 per cent of the possible, Durango 71, Flagstaff 83, Phoenix 81, and Yuma 86.

The relative humidity was about the average. The following are the values: Grand Junction 66 per cent, Durango 67, Flagstaff 67, Phoenix 50, and Yuma 41 per cent.

## SNOWFALL IN THE MOUNTAINS.

*Western Wyoming.*—During October and November the precipitation was normal or above, but in December there was a deficiency. At the close of December there was less than the average amount of snow on the ground below 7,000 feet altitude, and an average amount above that altitude. The snow is very light and dry.

*Western Colorado.*—The snowfall during December was much below the normal throughout the upper drainage areas of the tributaries of the Colorado. Temperature conditions were unfavorable to melting or settling; the snow, however, is generally well packed, high winds aiding in this respect. This year much of the old snow is frozen, and therefore in a condition to remain after later snowfalls have melted. Comparing the depth on the ground at the close of the month, the average depth on the Grand watershed, average elevation 8,700 feet, 17 inches, is 2 inches less than a year ago. The average for the Gunnison, 8,900 feet, 18 inches, and the San Juan, 8,100 feet, 8 inches, are each 5 inches less than at the corresponding date last year. For the Yampa and White watersheds, 7,900 feet, the average depth was 21 inches, or 8 inches more than a year ago.

*Western New Mexico.*—At the close of December the amount of snow on the ground at the headwaters of the San Juan in New Mexico was small. Favorable conditions are reported for the headwaters of the Gila, and in less degree for the Mimbres.

*Arizona.*—The snowfall was about normal in the west portion of the State, below normal in the central portion, and above the normal in the east and extreme south portions. Owing to the cold weather there was more than the usual amount of snow on the ground at the end of the month.

TABLE 1.—Climatological data for December, 1911. District No. 9, Colorado Valley.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (inches).	Number of rainy days, 0.01 inch or more.	Number of partly cloudy days, 0.01 inch or more.	Number of clear days.					
<i>Wyoming.</i>																					
Battle Mountain	Carbon.	7,300	12	15.4 <sup>a</sup>	—	42	67	— 17	25	37 <sup>b</sup>	0.61	—	0.40	9.0	2	6	14 <sup>c</sup>	w.	U. S. Forest Service.		
Daniel	Uinta.	6,740	12	11.2	— 4.6	41	7	— 35	31	57	0.40	— 0.38	0.20	4.0	3	12	13	nw.	J. M. Van Dervort.		
Eden	Sweetwater.	6,577	2	9.7	—	45	2	— 30	1	48	0.11	—	0.06	1.6	3	10	11	w.	Eden Valley L. & I. Co.		
Green River	do.	6,083	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Geo. H. Maxom.			
Pinedale	Fremont.	7,167	5	10.8	—	34	5	— 24	31	41	0.32	—	0.26	3.8	2	19	9	nw.	U. S. Forest Service.		
Rambler	Carbon.	9,232	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Do.			
Willow Creek Cabin	Fremont	7,500	2	11.2	—	41	7	— 15	30	36	0.92	—	0.90	14.3	2	15	7	nw.	Do.		
<i>Colorado.</i>																					
Ashcroft	Pitkin.	9,483	9	11.6	—	49	4	— 20	27	47	0.72	—	0.27	11.5	9	1	8	12	nw.	Dan McArthur.	
Breckenridge	Summit.	9,536	22	8.8	— 8.2	47	4	— 17	14 <sup>d</sup>	48	0.36	— 1.84	0.36	2.7	1	6	6	w.	Mrs. J. G. Thompson.		
Buford	Rio Blanca.	—	—	—	—	—	—	—	—	—	—	—	0.32	14.3	6	18	6	7	Genier.		
Cascade	San Juan.	8,900	4	—	—	—	—	—	—	—	1.11	—	—	—	—	—	—	—	San Juan W. & P. Co.		
Cedaredge	Delta.	6,175	13	22.7	— 5.0	48	5	— 4	27	36	0.15	— 0.74	0.09	3.2	3	18	8	5	Harry A. Cobbett.		
Chromo	Archuleta.	7,500	5	20.1	—	63 <sup>a</sup>	2	— 26 <sup>e</sup>	26	59 <sup>b</sup>	0.72	—	0.32	5.7	5	20 <sup>c</sup>	5 <sup>d</sup>	sw.	Lawrence Nolan.		
Cochetopa	Saguache.	9,088	2	—	—	—	—	—	—	—	0.51	—	0.22	4.0	3	15	10	6	Miss Bessie McDonough.		
Colbran	Mesa.	6,000	18	22.2	— 2.2	48	5	— 5	27	31	0.50	— 0.68	0.20	10.5	7	15	10	6	A. A. Wood.		
Columbine	Routt.	8,766	1	—	—	—	—	—	—	—	—	—	0.86	—	0.18	29.0	9	5	Mrs. M. A. Caron.		
Columbine Ranch	Delta.	6,925	1	—	—	—	—	—	—	—	—	—	0.60	—	16.6	5	26	Geo. W. Wade.			
Corona	Grand.	11,660	4	3.4	—	40	4	— 17	31	29	2.84	—	0.38	24.5	13	16 <sup>i</sup>	21 <sup>j</sup>	w.	U. S. Weather Bureau.		
Craig	Moffat.	15,22 <sup>k</sup>	—	43 <sup>a</sup>	4	— 24 <sup>e</sup>	25	47 <sup>b</sup>	—	—	—	—	—	—	—	—	—	Joseph F. Haubrich.			
Crawford (near)	Montrose.	6,600	1	20.6	—	49	3	— 6	31	32	0.65	—	0.35	10.0	5	15	9	7	C. W. Roe.		
Crested Butte	Gunnison.	8,867	1	8.5	—	39	4	— 26	31	48	0.57	—	0.25	5.2	3	14	12	5	Charles L. Ross.		
De Beque	Mesa.	4,935	23.8	—	—	58	5	— 8	31	48	—	—	—	—	—	—	—	O. L. Fairley.			
Delta	Delta.	4,965	21	22.4	— 3.0	58	5	— 6	27	48	0.05	— 0.64	0.03	1.0	2	18	8	5	E. M. Getts.		
Dillon	Summit.	8,800	1	13.2	—	47	4	— 25	13	57	0.09	—	0.09	1.0	1	12	4	15	Harry T. Hamilton.		
Durango	La Plata.	6,534	16	24.5	— 3.8	58	5	— 7	31	38	0.54	— 0.86	0.30	5.3	8	15	10	6	U. S. Weather Bureau.		
Eureka	San Juan.	10,000	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	San Juan W. & P. Co.			
Fraser	Grand.	8,560	2	5.6	—	43	3	— 27	27	60	0.51	—	0.12	5.7	6	9	3	19	San Juan W. & P. Co.		
Fruita	Mesa.	4,510	12	22.9	— 1.8	49	3	— 14	31	43	0.39	—	0.36	0.20	3.8	4	16	10	5	L. D. C. Gaskill.	
Glade Park	do.	7,000	—	—	—	—	—	—	—	—	—	—	0.57	—	0.20	8.0	4	17	11	3	J. B. Willsea.
Gladstone	San Juan.	10,400	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	A. F. Terrill.		
Glenwood Springs (near)	Garfield.	5,823	13	20.5	— 5.0	51	5	— 14	27 <sup>f</sup>	45	0.20	— 1.21	0.10	4.0	3	13	4	14	San Juan W. & P. Co.		
Grand Junction	Mesa.	4,608	20	25.6	— 2.6	50	2	— 4	25	38	0.20	— 0.24	0.10	4.5	5	14	11	6	U. S. Weather Bureau.		
Grandlake	Grand.	8,153	3	—	—	—	—	—	—	—	—	—	0.09	—	0.40	8.0	2	24	6	1	Mrs. Bell Kauffman.
Grand Valley	Garfield.	5,089	19	24.3	— 0.7	51	3	— 14	31	47	0.31	— 0.63	0.16	8.2	3	12	9	10	David Evans.		
Gunnison	Gunnison.	7,670	18	10.9	— 1.3	45 <sup>a</sup>	7	— 26	31	48 <sup>b</sup>	0.23	— 0.43	0.08	4.0	4	22	7	8	Clarence Adams.		
Hesperoy	La Plata.	8,113	—	—	—	—	—	—	—	—	—	—	0.41	—	0.28	5.8	5	15	G. F. Snyder.		
Ironton	Monrose.	8,700	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Lawrence J. Finch.			
Ladore	Moffat.	10,000	1	—	—	—	—	—	—	—	1.67	—	0.33	18.5	11	12	11	8	P. H. Foley.		
Lake City	Hinsdale.	8,686	6	13.6	—	45	5	— 21	27 <sup>f</sup>	46	0.72	—	0.07	—	1.0	1	20	11	0	Mrs. Geo. C. Bassett.	
Lay	Moffat.	6,190	17	15.4	— 3.8	50	3	— 25	25	52	0.59	—	0.27	8.4	9	14	8	9	J. F. Maurer.		
Mancos	Montezuma.	6,960	12	22.2	— 4.8	58	3	— 15	26	44	1.45	—	0.33	11.0	9	13	9	9	A. G. Wallihan.		
Marble	Gunnison.	7,951	2	16.8	—	52	3	— 18	27	46	0.82	—	0.22	17.9	5	20	8	3	B. M. Krumpantzky.		
Marshall Pass	Saguache.	10,846	8	—	—	—	—	—	—	—	0.32	—	0.08	8.0	4	22	7	8	F. E. Morse.		
Meeker (near)	Rio Blanca.	6,182	19	15.9	— 4.1	43	3	— 23	25	55	0.89	— 0.62	0.52	12.5	6	11	12	8	Wm. L. Williams.		
Montrose	Monrose.	5,811	22	23.2	— 3.5	55	2	— 7	22	45	0.58	— 0.22	0.22	7.8	6	17	9	5	T. Baker.		
Nast	Pitkin.	7,953	1	14.6	—	49	3	— 10 <sup>f</sup>	14	51	0.39	—	0.17	5.1	3	12	8	11	U. S. Reclamation Service.		
Pagoda	Routt.	6,500	20	—	—	57	2	— 30	26	54	0.62	—	0.23	8.5	7	12	10	9	Mrs. J. W. Scott.		
Pagosa Springs	Achuleta.	7,108	4	17.1	—	57	2	— 30	26	54	0.62	—	0.23	8.5	7	12	10	9	E. T. Walker.		
Palisades	Mesa.	4,729	—	—	—	—	—	—	—	—	—	—	0.23	—	—	—	—	G. S. Herbohsheimer.			
Paonia	Delta.	5,694	16	25.2	— 2.3	53	3	— 3	26 <sup>f</sup>	39	0.67	— 0.42	0.36	8.2	4	10	16	5	J. M. Underwood.		
Parshall	Grand.	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	F. A. Field.			
Pitkin	Gunnison.	9,500	2	—	—	—	—	—	—	—	0.21	—	0.10	3.7	3	21	7	7	Mrs. Maggie Cannmann.		
Pyramid	Rio Blanca.	16.1	—	—	—	46	4	— 15	25	40	0.40	—	0.20	7.0	5	15	5	11	E. E. Egry.		
Rangely	do.	5,050	12	21.6	+ 4.9	52	2	1	15	49	0.73	— 0.03	0.20	11.0	5	15	0	16	J. H. McGuire.		
Redcliff	Eagle.	8,695	18	—	—	—	—	—	—	—	1.00	— 0.95	0.38	11.4	4	18	5	8	Dorothea Greiner.		
Rico	Dolores.	8,824	9	—	—	—	—	—	—	—	—	—	0.10	4.1	3	17	7	7	Clinton B. Smith.		
Rife	Garfield.	5,437	—	22.8	—	51	5	— 11	31	39	0.19	—	0.16	4.1	3	21	3	7	Herman Eiche.		
River Portal	Montrose.	6,570	5	19.0	—	39	6	— 6	31	32	0.43	—	0.17	6.0	6	13	5	9	U. S. Recia. Service.		
Sapinero (near)	Gunnison.	8,125	8	12.2	—	42	5	— 17	31	40	1.04	—	0.16	13.7	11	15	4	12	W. F. Irving.		
Silverton (near)	San Juan.	9,400	4	—	—	—	—	—	—	—	—	—	0.24	14.3	8	10	12	9	Central Colorado Power Co.		
Spruce Lodge	Grand.	9,600	3	—	—	—	—	—	—	—	—	—	0.27	28.0	15	9	6	16	San Juan W. & P. Co.		
Steamboat Springs	Routt.	6,683	8	14.4	—	43	6	— 22	25	47	1.47	—	0.27	13.0	12	17	0	14	H. J. Wills.		
Tacoma	La Plata.	7,300	4	—	—	—	—	—	—	—	—	—	0.27	28.0	15	9	6	16	M. Elliot Houston.		
Telluride	San Miguel.	8,756	16	16.4	—	50	4	— 17	27	49	0.83	—	0.17	13.7	9	17	3	11	San Juan W. & P. Co.		
Terminal Dam	La Plata.	8,300	4	—	—	—	—	—	—	—	—	—	0.17	—	—	—	—	Wm. T. March.			
Uncompahgre Plateau	Montrose.	8,400	1	—	—	—	—	—	—	—	—	—	0.45	—	0.40	27.0	7	14</			

TABLE 1.—*Climatological data for December, 1911. District No. 9—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.				Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number of rainy days, 0.01 inch or more.	Number of partly cloudy days.	Number of cloudy days.				
<b>Utah—Continued.</b>																					
Moab.....	Grand.....	4,000	22	25.9	-4.6	47	5†	-2	25	35	0.60	-0.24	0.13	2.0	7	16	13	2	sw.	Henry Crouse.	
Monticello.....	San Juan.....	7,545	2	22.6	.....	50	1†	-3	31	31	1.60	.....	0.80	16.0	2	14*	12*	4*	.....	Geo. F. Barton.	
New Harmony.....	Washington.....	6,660	1	.....	.....	.....	.....	.....	.....	.....	0.95	.....	0.50	.....	4	.....	.....	.....	.....	Geo. F. Prince.	
Orderville.....	Kane.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. A. Porter.	
Pine Valley.....	Washington.....	5,557	9	24.0	.....	55	5	-7	31	43	0.60	.....	0.38	7.0	3	24	0	7	e.	Mason Gardner.	
Ranch.....	Carbon.....	6,700	.....	.....	.....	66	3	-18	31	48	1.80	.....	0.80	.....	3	27	1	3	n.	R. H. Thompson.	
San Rafael.....	Emery.....	4,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. C. Foy.		
St. George.....	Washington.....	2,880	21	33.6	-4.3	68	4	7	1	51	0.72	-0.21	0.70	.....	2	13	13	5	.....	A. B. Ballantyne.	
Scofield.....	Carbon.....	7,625	1	16.2	.....	54	2	-24	25†	59	0.34	.....	0.10	7.0	8	19	0	12	s.	Bernard Newren.	
Springdale.....	Washington.....	3,500	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hattie Wood.		
Sunnyside.....	Carbon.....	5,280	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Culum.		
Teasdale.....	Wayne.....	7,000	3	23.1	.....	52	1†	-2	24	36	1.00	.....	0.85	10.0	2	24	0	7	.....	Josiah Shurtz.	
Thompsons.....	Grand.....	5,150	2	24.2	.....	46	3	0	26†	32	0.35	.....	0.31	4.3	2	10	18	3	ne.	A. S. Starmont.	
Tropic.....	Garfield.....	7,000	13	22.6	.....	47	13†	-4	28	36	0.17	.....	0.10	.....	3	.....	.....	.....	nw.	E. P. Bolton.	
Trottcreek Ranger.....	Uinta.....	9,200	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Forest Service.		
Vernal.....	do.....	5,050	15	18.1	+0.4	44	2	-8	25	40	0.19	-0.37	0.08	4.3	4	18	4	9	.....	S. P. Trim.	
Woodside.....	Emery.....	4,645	.....	19.8	.....	51	5	-22	31	44	0.31	.....	0.16	5.0	2	13	10	8	n.	D. P. Adams.	
<b>New Mexico.</b>																				.....	
Alta.....	Socorro.....	5,500	15	31.0	-6.4	67	2	-13	26	60	0.98	+0.03	0.55	10.0	6	16	12	3	s.	M. A. Balke.	
Aragon.....	do.....	5,856	4	25.8	.....	67	1	0	14†	61	0.70	.....	0.48	11.0	3	20	9	2	.....	J. R. Milligan.	
Aztec.....	San Juan.....	5,590	12	.....	.....	.....	.....	.....	.....	.....	0.20	-0.29	0.15	4.8	2	14	15	2	sw.	Dr. T. J. West.	
Bergers Ranch.....	McKinley.....	8,000	.....	20.4	.....	64	3	-22	29	61	1.24	.....	0.64	13.0	6	17	5	9	w.	Herman Berger.	
Black Rock.....	do.....	6,500	3	21.8	.....	64	3	-21	25	46	0.52	.....	0.24	6.5	3	21	0	10	w.	D. Blackwater.	
Bloomfield.....	San Juan.....	5,500	16	23.5	-4.0	57	3†	-8	19†	47	0.26	-0.35	0.13	4.0	3	18	10	3	sw.	Fred Le Clerc.	
Cambray.....	Luna.....	4,215	12	.....	.....	62	2†	10	15	.....	0.66	+0.14	0.40	4.0	2	14	5	11	w.	Agent So. Pac. Co.	
Cliff.....	Grant.....	4,470	12	.....	.....	67	8	0	15	.....	0.97	.....	0.85	8.0	2	23	2	6	nw.	W. C. Belden.	
Columbus.....	Luna.....	4,054	2	.....	.....	65	2†	0	25	57	0.42	-0.21	0.42	T.	1	26	0	2	w.	Agent E. P. & S. W. R. R. Co.	
Deming.....	do.....	4,333	34	33.4	.....	65	4	25	57	.....	0.41	-0.98	0.33	8.0	4	18	4	9	w.	Agent So. Pac. Co.	
Dulce.....	Rio Arriba.....	6,756	4	17.8	-5.7	54	4	-37	26	51	0.41	-0.98	0.33	5.5	6	28	0	3	se.	G. H. Blakeslee.	
Fort Bayard.....	Grant.....	6,152	36	33.9	-5.4	60	2	13	27	32	0.63	-0.21	0.37	5.5	2	21	0	10	w.	U. S. General Hospital.	
Fruitland.....	San Juan.....	4,800	13	25.5	-3.8	56	4	-4	30	40	0.17	-0.21	0.16	2.2	3	19	9	3	sw.	C. J. Collyer.	
Gage.....	Luna.....	4,486	4	35.0	.....	64	3	8	26	48	0.72	+0.25	0.60	1.5	2	26	3	2	w.	Agent So. Pac. Co.	
Gila Planting Station.....	Grant.....	6,475	1	32.8	.....	61	2	9	26	33	0.71	.....	0.29	4.5	4	24	4	3	sw.	U. S. Forest Service.	
Hachita.....	do.....	4,504	2	.....	.....	62	2†	10	15	.....	0.82	.....	0.45	6.5	2	26	0	4	nw.	Agent E. P. & S. W. R. R. Co.	
Haynes.....	Rio Arriba.....	6,600	1	20.0	.....	57	3†	-20	31	53	0.22	.....	0.12	3.0	2	26	0	5	w.	W. R. Blackwater.	
Hermanes.....	Luna.....	4,451	2	.....	.....	60	4†	7	15	.....	1.15	.....	0.87	10.0	2	16	7	8	w.	Agent E. P. & S. W. R. R. Co.	
Lordsburg.....	Grant.....	4,245	11	36.3	-6.7	69	7	4	15	48	2.60	+1.94	0.71	12.2	7	19	7	5	sw.	Agent So. Pac. Co.	
Luna.....	Grant.....	7,300	6	21.4	.....	56	2	-23	26	52	0.72	.....	0.50	9.5	3	14	2	2	s.	Agent E. P. & S. W. R. R. Co.	
Mimbres.....	Grant.....	5,007	6	.....	.....	57	2	23	26	52	0.16	.....	0.16	2.0	1	20	9	2	nw.	Charles Dennis.	
Pinos Altos (near).....	do.....	7,253	.....	.....	.....	58	2	-12	26	52	0.27	.....	0.62	8.5	7	17	8	6	w.	O. L. Scott.	
Pratt.....	do.....	4,415	2	.....	.....	59	2	10	15	.....	1.24	.....	1.12	9.5	4	9	5	17	.....	Agent E. P. & S. W. R. R. Co.	
Putnam.....	San Juan.....	6,200	.....	.....	.....	60	2†	1	27	39	0.71	.....	0.70	8.0	5	25	4	2	.....	Robt. H. Woods.	
Redrock.....	Grant.....	4,150	6	.....	.....	61	2	15	20	52	0.91	.....	0.34	3.7	7	16	9	6	.....	Agent E. P. & S. W. R. R. Co.	
Rodeo.....	do.....	4,118	2	.....	.....	62	7	10	15	.....	1.91	.....	0.26	4.5	6	25	6	0	.....	E. M. Brumback.	
Silver City.....	do.....	5,860	.....	31.1	.....	63	2†	1	27	39	0.71	.....	0.26	4.5	6	25	6	0	.....	.....	
<b>Arizona.</b>																				.....	
Allaire Ranch.....	Cochise.....	4,184	15	.....	.....	64	5†	37	26†	22	1.35	+0.57	0.87	5.7	6	23	3	5	nw.	Thos. Allaire.	
Aztec.....	Yuma.....	493	13	49.7	-6.6	82	3	22	26†	40	0	-0.55	0	0	0	0	5	5	.....	Agent So. Pac. Co.	
Benson.....	Cochise.....	3,523	29	40.4	-8.7	68	4†	15	26	48	0.55	+0.03	0.40	4.5	3	24	0	7	w.	Rev. J. G. Pritchard.	
Bisbee.....	do.....	5,500	21	33.6	-6.7	63	2†	14	26	59	1.57	+0.50	0.50	10.0	5	24	3	3	sw.	Agent So. Pac. Co.	
Bowie.....	do.....	3,756	34	40.6	-6.0	70	2	18	7	50	0.75	-0.35	0.75	0	1	12	18	1	sw.	H. E. Kell.	
Buckeye.....	Maricopa.....	980	20	44.3	-6.3	80	5	13	31	53	T.	-0.83	0.26	9.4	5	16	12	3	sw.	R. A. Rodgers.	
Canilie.....	Santa Cruz.....	5,225	2	.....	.....	59	2	27	30	53	0.99	.....	0.26	9.4	5	16	12	3	sw.	Agent So. Pac. Co.	
Casa Grande.....	Pinal.....	1,396	30	49.6	-3.9	64	5†	37	26†	22	1.23	-0.23	0.23	0.23	1	23	0	2	.....	F. P. Finkley.	
Casa Grande Ruins.....	Maricopa.....	1,422	4	45.6	-3.9	82	4	19	14	47	0.56	0.21	0.21	0.12	0.5	21	8	2	w.	E. A. Howard.	
Cavecreek.....	Maricopa.....	1,520	5	43.8	.....	81	2	16	31	47	0.21	.....	0.12	0.5	3	21	8	2	.....	H. L. Ostermann, O. F. M.	
Chin Lee.....	Graham.....	6,000	4	24.9	.....	55	6	-2	27	40	0.08	.....	1.41	32.1	4	23	5	19	n.	H. R. Charlson.	
Chlarsons Mill.....	Graham.....	3,584	20	40.4	.....	63	5	23	1†	44	0.23	-0.87	0.16	0.16	0	2	25	5	1	n.	P. Reisinger.
Clifton.....	Greenlee.....	3,584	20	40.4	.....	71	2†	17	15	44	0.83	-0.79	0.61	0	2	25	5	1	n.	W. M. Clanton.	
Cline.....	Gila.....	2,300	13	41.5	-4.5	71	2†	17	15	44	1.33	+0.62	0.98	3.5	4	27	0	4	n.	Agent So. Pac. Co.	
Cochise.....	Cochise.....	4,219	14	37.7	-6.5	66	2	-4	25	64	0.75	-0.35	0.30	3.5	2	23	6	2	se.	M. J. Nolan.	
Columbia.....	Yavapai.....	1,900	14	48.9	-2.5	75	2	-25	29	34	0.35	-1.25	0.30	3.5	2	23	6	2	se.	Agent E. P. & S. W. R. F. Co.	
Courtland.....	Cochise.....	4,543	2	35.5	.....	56	1	16	24	24	1.51	.....	0.68	7.5	5	26	0	0	.....	N. Erickson.	
Dos Cabezos.....	do.....	5,250	3	.....	.....	56	2	-26	31	56	0.97	.....	0.45	16.3	6	17	12	2	sw.	Dr. F. T. Wright.	
Douglas.....	do.....	3,930	9	41.7	.....	77	2	9	27	57	1.23	.....	0.70	5.0	5	20	9	2	.....	G. F. Cook.	
Dudleyville.....	Pinal.....	2,204	22	43.0	-4.2	75	3	19	27	49	1.01	-0.29	0.65	T.	8	12	10	9	s.	Agent E. P. & S. W. R. Co.	
Fairbank.....	Cochise.....	3,862	24	40.2	.....	76	1	17	26	52	0.86	.....	0.23	5.0	5	14	10	7	sw.	U. S. Weather Bureau.	
Flagstaff (1).....	Coconino.....	6,907	20	22.0	-6.4	54	4	-16	31	46	0.61	-1.34	0.23	11.2	5	22	5	4	se.	C. C. Moers.	
Flagstaff (2).....	do.....	7,452	5	18.8	.....	56	2	-26	31	56	0.97	.....	0.45	16.3	6	17	12	2	sw.	U. S. Forest Service.	
Florence.....	Pinal.....	1,504	14	49.8	-1.7	85	11	15	12†	63	0.35	.....	0.25	0	2	23	3	0	sw.	Agent Ariz. Eastern R. R. Co.	
Fort Apache.....	Navajo.....	5,200	41	.....	.....	57	2	26	59	.....	0.63	-0.80	0.28	10.5	7	23					

TABLE 1.—*Climatological data for December, 1911. District No. 9—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Observers.					
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmetted).	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.				
<i>Arizona—Continued.</i>																						
Naco.	Cochise.	4,579	2	39.0	.....	66	5	18	14	39	1.24	0.95	-1.00	0.33	5.5	11.0	2	25	6	3	sw.	Agent E. P. & S. W. Co.
Natural Bridge.	Gila.	4,990	22	.....	.....	.....	.....	.....	.....	.....	.....	0.75	0	0	0	0	0	0	0	0	sw.	D. G. Goodfellow.
Oracle.	Pinal.	4,500	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	0	0	0	0	0	w.	W. H. Winters.
Osborn.	Cochise.	4,676	2	43.3	.....	68	2†	20	26	34	1.17	0.39	4.5	5	19	11	1	0	0	0	w.	Agent E. P. & S. W. Co.
Paradise.	do.	5,436	6	34.0	.....	66	6	5	15	48	.....	11.5	0	0	0	0	0	0	0	nw.	J. C. Hancock.	
Parker.	Yuma.	345	18	44.8	-5.6	79	9	9	31	54	T.	-0.44	T.	0	0	0	0	0	0	e.	M. A. Israel, M. D.	
Payson.	Gila.	5,550	3	35.3	.....	84	2	-8	30	65	0.87	0.62	10.0	2	25	1	5	5	5	e.	M. McDonald.	
Phoenix.	Maricopa.	1,108	17	46.6	-5.3	80	4	22	26	42	0.11	-0.48	0.06	T.	3	21	8	2	2	2	e.	U. S. Weather Bureau.
Phoenix (1).	do.	1,092	21	45.0	.....	80	4	18	26	50	0.29	-0.45	0.21	T.	2	20	7	4	4	4	e.	G. Acuff.
Phoenix (2).	do.	1,189	3	47.1	.....	84	3	22	26	46	0.31	.....	0.21	0	2	22	8	1	1	sw.	Horne & Armstrong.	
Pinal Ranch.	Pinal.	4,520	17	.....	.....	.....	.....	.....	.....	.....	1.07	-1.20	0.38	11.5	4	0	0	0	0	0	n.	Iron & Craig.
Pinto.	Apache.	5,660	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	n.	Mrs. F. C. Henning.	
Prescott.	Yavapai.	5,320	46	29.6	-7.1	64	2	-2	31	47	0.23	-1.32	0.15	2.4	3	24	5	2	2	n.	J. W. Flinn, M. D.	
Quartzsite.	Yuma.	800	4	44.4	.....	90	3	16	31	49	0.20	0.20	0	0	1	0	0	0	0	w.	W. E. Scott.	
Redrock.	Pinal.	1,864	4	47.3	.....	80	2†	22	13	46	0.85	0.40	0	0	5	18*	0	0	0	w.	W. J. Crowell.	
Roosevelt.	Gila.	2,175	7	44.2	.....	70	5	26	31	38	0.35	0.35	0	1	8	19	4	4	w.	E. W. Hudson.		
Sacaton.	Pinal.	1,280	4	45.6	.....	86	4	17	12	58	0.25	0.25	0	1	0	0	0	0	sw.	A. Shreeve.		
St. Johns.	Apache.	5,650	8	27.8	.....	78	1	-15	31	55	0.65	0.40	6.5	3	19	6	6	6	sw.	Rev. A. Weber, O. F. M.		
St. Michaels.	do.	6,950	25	24.2	-2.1	60	2†	-19	31	51	0.65	-0.29	0.30	6.5	3	18	12	1	1	ne.	Mrs. M. B. Swartz.	
Salome.	Yuma.	1,875	5	40.2	.....	77	7	16	26	48	0.44	0.17	0	3	17	10	4	4	4	sw.	Miss M. A. Bingham.	
San Carlos.	Gila.	2,456	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	sw.	Agent So. Pac. Co.	
San Simon.	Cochise.	3,609	25	39.0	-8.0	66	6†	10	27	50	2.15	+ 1.59	0.60	15.5	5	23	0	8	8	sw.	Lib. A. T. & S. F. R. R. Co.	
Seligman.	Yavapai.	5,219	5	39.5	.....	65	1†	15	18†	47	0	0	0	0	0	0	0	0	0	sw.	Agent So. Pac. Co.	
Sentinel.	Maricopa.	685	13	48.3	-5.3	80	4	21	26	40	0	-0.32	0	0	0	27	3	1	1	w.	Imperial Copper Co.	
Silverbell.	Pima.	2,650	6	51.2	.....	88	3	26	26	44	0.85	0.40	T.	3	23	0	8	8	n.	W. J. Flake.		
Snowflake.	Navajo.	5,644	4	23.9	.....	62	4	-16	25	60	1.10	0.60	11.0	3	13	13	5	5	s.	U. S. Forest Service.		
Springerville.	Apache.	6,862	1	22.0	.....	60	3†	-14*	25	58	0.31	0.16	4	23	7	1	1	1	s.	O. C. Upchurch.		
Stupai.	Coconino.	3,200	5	.....	.....	79	4	20	26	46	0.21	0.19	0	3	22	6	3	3	nw.	F. H. Simmons.		
Tempe.	Mariopa.	1,165	7	43.8	.....	74	5	16	31	45*	1.36	0.64	6.0	5	17	14	0	0	se.	Prof. J. H. Larson.		
Thatcher.	Graham.	2,800	8	39.8	.....	69	4	13	25	35	1.20	+ 0.44	0.45	11.0	4	24	4	3	3	w.	F. N. Walcott.	
Tombstone.	Cochise.	4,550	13	39.9	-4.6	69	4	13	25	44	0.85	0.40	T.	3	23	0	8	8	n.	G. A. Dennis.		
Truxton.	Mohave.	3,997	22	36.2	.....	73	3	0	31	41	0.30	0.25	4.5	3	24	6	1	1	n.	H. P. Marble.		
Tuba.	Coconino.	4,500	13	29.0	-2.9	58	5	5	31	40	0.05	-0.59	0.05	0.5	1	17	8	6	6	sw.	Univ. of Arizona.	
Tucson.	Pima.	2,390	31	.....	.....	78	4	20	26	46	0.21	0.19	0	3	22	6	3	3	w.	J. M. Robe.		
Tucson (1).	do.	2,380	3	44.9	.....	80	3†	15	12†	48	0.99	0.53	T.	3	20b	9b	0b	0b	w.	U. S. Coast & Geod. Sur.		
Tucson (2).	do.	2,526	1	44.6	.....	78	3	17	15	61	1.00	0.39	T.	6	20	8	3	2	w.	Agent So. Pac. Co.		
Vail.	do.	3,421	13	38.7	-13.5	72	1	2	25	47	1.10	+ 0.54	0.90	11.0	2	29	2	0	0	e.	J. O. Carter.	
Walnut Grove.	Yavapai.	3,649	18	.....	.....	69	2	-12	30	51	0.80	-0.67	0.40	9.0	4	22	9	0	0	nw.	Agent S. F., P. & P. Ry.	
Wickenburg.	Maricopa.	2,072	15	39.2	-7.6	75	1	14	25	50	0.10	-1.49	0.05	0.5	2	18	9	4	4	n.	Agent So. Pac. Co.	
Willcox.	Cochise.	4,164	31	34.6	-8.5	65	5†	13	26†	48	1.60	+ 0.89	0.80	8.0	3	18	0	13	13	n.	E. J. Nordyke.	
Williams.	Coconino.	6,750	10	26.6	.....	69	2	-12	30	51	0.80	-0.67	0.40	9.0	4	22	9	0	0	n.	J. F. Bauer.	
Winslow.	Navajo.	4,853	9	35.4	.....	66	9	1	26	47	0.20	0.10	2.0	2	24	4	3	3	n.	U. S. Weather Bureau		
Yuma.	Yuma.	141	31	49.5	-6.3	76	3	22	26	39	T.	-0.45	T.	0	0	27	2	2	2	n.	F. L. Crane.	
Yuma (1).	do.	150	5	46.2	.....	77	3	14	26	47	0	0	0	0	0	23	5	3	3	n.		
<i>Nevada.</i>																						
Caliente.	Lincoln.	4,407	1	27.0	.....	67	4	-9	30	54	0.70	0.30	7.0	3	20	8	3	5	5	ne.	Salt Lake Route.	
Logan.	Clark.	1,700	4	40.0	.....	64	6†	11	26	44	0.04	0.02	0	2	10	16	5	5	5	s.	R. M. Filcher.	

\*, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.

\* Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for December, 1911. District No. 9, Colorado Valley.*

TABLE 2.—*Daily precipitation for December, 1911. District No. 9—Continued.*

1900

## MONTHLY WEATHER REVIEW.

DECEMBER, 1911

TABLE 2.—*Daily precipitation for December, 1911. District No. 9—Continued.*

Stations.	Watershed.	Day of month.																													Total.						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					
Arizona—Contd.																																					
Pinal Ranch	Gila																		.28	.24													.33	1.07			
Pinto	Little Colorado																																				
Prescott	Hassayampa																T.		.04	T.	T.													0.23			
Quartzsite	Little Colorado																	.20																0.20			
Redrock	Santa Cruz																			.40	.02	.01												0.85			
Roosevelt	Salt																		.35															0.35			
Sacaton	Gila																		.25															0.25			
St. Johns	Little Colorado																		.15															0.66			
St. Michaels	do																			T.															0.66		
Salome	Colorado																				.17	.16												0.44			
San Carlos	Gila																																		2.15		
San Simon	do																				.30	.25												0.00			
Seligman	Verde																																		0.00		
Sentinel	Gila																																		0.00		
Silverbell	Santa Cruz																			.40														0.85			
Snowflake	Little Colorado																			.60															1.10		
Springerville	do																				.08														0.31		
Supai	Colorado																																				
Tempe	Salt																				.19															0.21	
Thatcher	Gila																				.64															1.36	
Tombstone	San Pedro																			.45																1.20	
Truxton	Colorado																					T.	.05	T.												0.30	
Tuba	Little Colorado																						T.	T.	T.											0.05	
Tucson	Santa Cruz																																				
Tucson (1)	do																																				0.99
Tucson (2)	do																																				1.00
Vail	do																																				1.10
Walnut Grove	Hassayampa																																				0.50
Wickenburg	do																																				0.10
Willcox	Desert																																				1.60
Williams	Colorado																																				0.80
Winslow	Little Colorado																																				0.20
Yuma	Colorado																																				T.
Yuma (1)	do																																				0.00
Nevada																																					
Caliente	Colorado																																				0.70
Logan	do																																				0.04

\* Precipitation included in that of the next measurement.

† Separate dates of falls not recorded.

||| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

DECEMBER, 1911.

## MONTHLY WEATHER REVIEW.

1901

TABLE 3.—Maximum and minimum temperatures at selected stations for December, 1911. District No. 9, Colorado Valley.

Date.	Wyoming.				Colorado.								Utah.								New Mexico.							
	Daniel.		Green River.		Durango.		Grand Junction.		Gunnison.		Meeker.		Steamboat Springs.		Emery.		Fort Duchesne.		Hite.		Moab.		St. George.		Fort Bayard.		Bloomfield.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1.....	38	30	.....	.....	49	13	42	17	39	-9	38	-2	30	-9	59	18	30	6	48	20	44	9	58	7	58	27	47	3
2.....	39	-1	.....	.....	51	14	50	12	31	-7	42	1	35	-5	52	17	28	-11	50	20	44	11	60	10	60	28	49	4
3.....	40	2	.....	.....	56	18	48	16	34	-6	43	0	38	-9	60	11	25	0	49	20	45	10	59	13	56	26	57	10
4.....	33	0	.....	.....	56	22	41	19	37	-8	38	5	35	-3	65	9	28	0	49	25	45	16	68	18	56	32	57	13
5.....	38	0	.....	.....	58	22	45	16	35	-3	40	6	35	-3	61	7	30	2	53	26	47	14	62	17	53	31	52	17
6.....	33	3	.....	.....	50	20	48	17	35	-3	41	4	43	-6	67	6	28	-1	51	22	47	14	60	17	51	29	51	12
7.....	41	0	.....	.....	46	23	47	22	45	5	39	8	38	15	65	2	27	12	52	24	42	19	59	28	57	29	49	18
8.....	32	-6	.....	.....	52	19	47	22	35	-4	34	11	40	15	62	11	29	0	54	27	46	15	59	22	58	30	52	11
9.....	30	-3	.....	.....	50	19	43	15	37	-2	27	11	27	-14	51	12	29	16	49	25	43	13	56	20	47	33	46	12
10....	29	3	.....	.....	40	20	40	32	4	32	10	30	20	53	8	26	-2	51	33	45	28	57	19	46	29	42	23	
11....	22	-3	.....	.....	38	13	40	18	28	-3	28	13	25	12	60	9	30	7	48	25	43	19	56	20	39	24	42	16
12....	29	1	.....	.....	33	10	38	17	27	-10	30	-8	30	5	55	5	34	-2	47	23	41	15	56	13	40	16	38	5
13....	26	-3	.....	.....	32	12	38	16	24	-1	28	-5	32	-1	60	6	29	-3	46	29	41	13	54	19	37	16	36	5
14....	22	2	.....	.....	33	5	35	14	21	-14	24	-15	21	-6	62	5	30	-7	43	21	37	10	50	15	33	19	36	2
15....	30	3	.....	.....	36	9	40	18	25	-5	15	2	25	-4	60	8	27	-6	45	20	38	12	51	13	43	15	37	5
16....	32	-2	.....	.....	38	12	36	19	27	-5	33	6	30	0	55	7	34	5	48	26	40	18	56	16	48	19	42	8
17....	22	-11	.....	.....	37	15	38	22	35	-2	33	3	26	-5	53	2	27	5	41	26	38	18	49	25	49	23	41	15
18....	26	6	.....	.....	39	23	40	27	44	4	30	6	23	10	55	8	27	16	41	30	43	28	42	25	39	26	47	15
19....	24	11	.....	.....	28	8	40	19	26	14	28	11	23	12	50	6	31	0	44	32	39	18	45	20	37	19	30	-8
20....	19	-6	.....	.....	26	18	36	13	27	3	24	13	21	13	42	6	25	0	37	25	36	15	38	23	42	14	32	18
Mns.	26.5	-4.1	.....	.....	37.7	11.3	37.3	13.9	27.9a	-6.1	30.3	1.5	27.6	1.2	49.8	4.4	27.3	-1.8	43.9	22.7	39.1	12.7	50.0	17.1	45.6	22.2	40.0	7.0

Date.	Arizona.												Logan, Nev.											
	Bisbee.		Flagstaff.		Fort Apache.		Grand Canyon.		Parker.		Phoenix.		Prescott.		St. Michaels.		San Carlos.		Tucson. 2		Yuma.		Logan, Nev.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	61	36	51	8	.....	18	54	15	78	32	77	35	61	14	55	10	.....	.....	75	26	73	44	60	17
2.....	63	34	53	14	.....	20	51	17	77	34	78	38	64	19	60	13	.....	.....	77	40	74	50	62	20
3.....	58	36	53	11	.....	20	55	17	70	30	78	47	63	19	60	9	.....	.....	73	48	76	45	61	22
4.....	63	38	54	23	.....	24	51	18	74	30	80	52	60	26	56	19	.....	.....	78	48	70	34	59	24
5.....	58	38	51	15	.....	28	47	19	75	30	65	43	54	18	54	20	.....	.....	71	35	73	39	62	24
6.....	59	32	48	12	.....	26	49	18	75	30	68	37	55	19	48	19	.....	.....	75	28	66	35	64	20
7.....	61	39	42	14	.....	28	50	20	76	29	66	35	48	19	51	13	.....	.....	66	28	67	39	60	22
8.....	51	36	44	20	.....	36	52	18	78	29	65	36	53	18	50	19	.....	.....	63	29	69	43	61	23
9.....	46	33	48	12	.....	38	50	20	79	29	65	38	55	18	49	12	.....	.....	60	42	71	32	59	21
10....	47	32	42	13	.....	37	35	17	69	35	63	33	47	16	40	19	.....	.....	60	31	68	37	59	24
11....	42	27	33	8	.....	20	35	8	69	28	63	32	44	16	33	20	.....	.....	58	24	66	38	60	21
12....	44	26	37	4	.....	24	35	8	69	28	61	31	43	12	39	6	.....	.....	59	24	63	32	57	19
13....	44	24	25	14	.....	22	31	8	69	26	57	26	40	11	29	7	.....	.....	52	18	62	38	59	18
14....	44	24	32	7	.....	21	34	15	68	18	57	32	40	9	33	7	.....	.....	53	21	60	32	60	20
15....	45	23	40	5	.....	20	41	17	70	14	58	30	48	9	38	8	.....	.....	55	17	64	26	62	22
16....	49	26	48	15	.....	22	35	16	65	18	62	28	54	17	42	11	.....	.....	63	21	66	33	64	25
17....	56	28	34	12	.....	20	31	13	65	18	58	34	40	23	40	13	.....	.....	69	24	63	32	58	32
18....	48	27	27	3	.....	22	28	16	65	24	48	36	35	11	40	11	.....	.....	58	32	63	30	59	33
19....	36	26	33	-4	.....	4	29	8	65	22	52	29	40	6	34	-1	.....	.....	49	29	62	29	58	27
20....	45	22	30	4	.....	3	26	12	65	22	52	32	39	11	30	6	.....	.....	56	26	60	35	60	28
21....	41	29	26	5	.....	7	29	8	65	20	56	39	37	13	34	15	.....	.....	48	37	58	37	49	32
22....	42	23	35	-1	.....	7	30	-7	65	18	56	29	41	4	30	-1	.....	.....	51	27	61	42	57	20
23....	47	22	42	1	.....	10	31	4	65	18	56	30	49	11	34	2	.....	.....	59	22	65	33	56	2
24....	48	37	28	10	.....	15	28	-2	57	18	54	30	38	15	33	6	.....	.....	61	28	56	34	50	22
25....	43	22	25	-2	.....	6	25	-6	50	11	48	30	38	8	40	10	.....	.....	53	31	53</			